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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,589	11/02/2000	Deung-Mo Che	10156/015001	9144

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EXAMINER

BRYANT, DAVID P

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/674,589

Applicant(s)

CHE ET AL.

Examiner

David P. Bryant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,9-15,17-19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-15,17-19 and 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species A (claims 1-3, 5-7, and 9-12) in the reply filed on September 13, 2004, is acknowledged.

Claims 13-15, 17-19, and 21-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Claim Objections

Claim 12 is objected to because of the following informalities:

This claim is dependent on "any one of claims 8-10." However, claim 8 has been canceled.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 5-7, and 9-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In amended claim 1, applicant has incorporated new matter in the "descaling" step and in both "rolling" steps, as outlined below.

The descaling step is now recited as being performed "in a reduction unit." However, as shown in Figure 1 and set forth in the specification on page 7 (lines 23-24), the slabs "undergo descaling by a first descaler 18a *before being rolled by the reduction unit 13.*" (emphasis added)

The first rolling step is now recited as being performed "in a second heating furnace." However, as shown in Figure 1 and set forth in the specification on page 8 (lines 14-15), "A second heating furnace 15b is provided *downstream from the reduction unit 13.*" (emphasis added)

The final rolling step is now recited as being performed "in a reversible manner." However, neither the original claims nor the original specification make any mention whatsoever of rolling the flat bars in the finishing mill "in a reversible manner."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3, 5-7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (AAPA) in view of Passoni et al. (U.S. Patent No. 5,430,930) and Hirano et al. (U.S. Patent No. 5,651,411).

AAPA is shown in Figure 4 and discussed in the specification on pages 1-2. AAPA teaches a method for manufacturing hot rolled steel sheets comprising the steps of: passing molten steel through a continuous caster **101** having a mold after having been poured into a ladle **91** and a tundish **92** to manufacture a slab; descaling, reducing, and cutting the slab using descaler **108a**, reduction unit **103**, and cutter **104a**; heating the cut slabs to a predetermined temperature in a heating furnace **105**; coiling the flat bars by a coiling station **106a** while the flat bars are maintained in a heated state; uncoiling the flat bars by an uncoiler **106b**; and rolling the flat bars to a predetermined thickness in a finishing mill **107** prior to coiling in down coiler **121**.

AAPA fails to teach (1) cutting the slab to predetermined lengths prior to heating, descaling, and rolling in the reduction unit, (2) width rolling the cut slabs using a width roller, (3) rolling the flat bars in a finishing mill "in a reversible manner, " and (4) the specific heating temperatures and heating times recited in the dependent claims. (NOTE: The limitations for "descaling...in a reduction unit" and "rolling...in a second heating furnace" are clearly new matter, and have not been treated as narrowing limitations. For examination purposes, "in a reduction unit" and "in a second heating furnace" have not been considered.)

Passoni et al. teach a method for manufacturing hot rolled sheets comprising the steps of: passing molten steel through a continuous caster **4** to manufacture a slab; cutting the slab to predetermined lengths using cutter **8**; heating the cut slabs **7** in a heating furnace **6**; descaling the cut slabs using descaler **28**; rolling the cut slabs in a reduction unit **26**; coiling the flat bars by a

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coiler/uncoiler **10**; uncoiling the flat bars by coiler/uncoiler **10**; and rolling the flat bars **11** to a predetermined thickness in a finishing mill **12** in a reversible manner prior to final coiling in down coiler **16**. See Figures 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have cut the slab of AAPA immediately prior to heating in a furnace, descaling by a descaler, and rolling in a reduction unit, as taught by Passoni et al., to better individually control the heating and processing of the slabs, and to heat the individual slabs to a proper temperature for rolling in the reduction unit (see column 2, lines 39-45 of Passoni et al.). It would further have been obvious to roll the flat bars of AAPA in the finishing mill in a reversible manner, as taught by Passoni et al. to effectively reduce the overall length of the finishing mill.

Hirano et al. teach a method for manufacturing hot rolled sheets including width rolling cut slabs using a width roller **32**. The width rolling takes place downstream from slab cutter **23** and heater **31**, but upstream from descaler **27** and rolling mill **28**. See Figure 8 and column 14, lines 31-52.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated a width roller between the first furnace and the descaler of AAPA/Passoni et al., as taught by Hirano et al., to from the slab to a predetermined width prior to descaling and reduction rolling.

As for the specific heating temperatures and heating times recited in the dependent claims, they are considered to have been obvious matters of choice, since it has been held that where the general conditions of a claim are disclosed by the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

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Response to Arguments

Applicant's arguments filed September 13, 2004, have been fully considered but they are not persuasive.

Applicant argues that neither Passoni et al. nor applicant's specification, alone or in combination, teach or suggest "descaling the cut slabs heated in the first heating furnace." Passoni et al. teach descaling using descaler 28 after heating the slab 7 in furnace 6. See Figures 1 and 2.

Applicant also argues that Passoni et al. fail to teach rolling the flat bars reversibly in both directions. To the contrary, note the Abstract of Passoni et al., which explicitly discloses rolling in the finishing mill in a reversible manner.

Applicant's arguments concerning width rolling are deemed to be moot in view of the new grounds of rejection with the patent to Hirano et al. Note also the reference to Kimura et al. (U.S. Patent No. 5,641,770), which teaches width rolling of cast slabs prior to descaling and rolling.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Bryant whose telephone number is (571) 272-4526. The examiner can normally be reached on Monday-Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David P. Bryant
Primary Examiner
Art Unit 3726

dpb
12/13/04